



OIPE

## RAW SEQUENCE LISTING

DATE: 04/25/2002

PATENT APPLICATION: US/10/041,007

TIME: 14:44:54

Input Set : A:\P02081US1.txt

Output Set: N:\CRF3\04252002\J041007.raw

Does Not Comply  
Corrected Diskette Needed

3 <110> APPLICANT: Matsuda, Seiichi P.T.  
 4 Schepmann, Hala G  
 6 <120> TITLE OF INVENTION: Ginkgo Biloba Levopimaradiene Synthase  
 8 <130> FILE REFERENCE: P02081US1  
 10 <140> CURRENT APPLICATION NUMBER: US 10/041,007  
 11 <141> CURRENT FILING DATE: 2002-01-07  
 13 <150> PRIOR APPLICATION NUMBER: US 60/259,881  
 14 <151> PRIOR FILING DATE: 2001-01-05  
 16 <160> NUMBER OF SEQ ID NOS: 41  
 18 <170> SOFTWARE: PatentIn version 3.1

## ERRORED SEQUENCES

4068 <210> SEQ ID NO: 41  
 4069 <211> LENGTH: 862  
 4070 <212> TYPE: PRT  
 4071 <213> ORGANISM: Taxus brevifolia  
 4073 <400> SEQUENCE: 41  
 4075 Met Ala Gln Leu Ser Phe Asn Ala Ala Leu Lys Met Asn Ala Leu Gly  
 4076 1 5 10 15  
 4079 Asn Lys Ala Ile His Asp Pro Thr Asn Cys Arg Ala Lys Ser Glu Arg  
 4080 20 25 30  
 4083 Gln Met Met Trp Val Cys Ser Arg Ser Gly Arg Thr Arg Val Lys Met  
 4084 35 40 45  
 4087 Ser Arg Gly Ser Gly Gly Pro Gly Pro Val Val Met Met Ser Ser Ser  
 4088 50 55 60  
 4091 Thr Gly Thr Ser Lys Val Val Ser Glu Thr Ser Ser Thr Ile Val Asp  
 4092 65 70 75 80  
 4095 Asp Ile Pro Arg Leu Ser Ala Asn Tyr His Gly Asp Leu Trp His His  
 4096 85 90 95  
 4099 Asn Val Ile Gln Thr Leu Glu Thr Pro Phe Arg Glu Ser Ser Thr Tyr  
 4100 100 105 110  
 4103 Gln Glu Arg Ala Asp Glu Leu Val Val Lys Ile Lys Asp Met Phe Asn  
 4104 115 120 125  
 4107 Ala Leu Gly Asp Gly Asp Ile Ser Pro Ser Ala Tyr Asp Thr Ala Trp  
 4108 130 135 140  
 4111 Val Ala Arg Leu Ala Thr Ile Ser Ser Asp Gly Ser Glu Lys Pro Arg  
 4112 145 150 155 160  
 4115 Phe Pro Gln Ala Leu Asn Trp Val Phe Asn Asn Gln Leu Gln Asp Gly  
 4116 165 170 175  
 4119 Ser Trp Gly Ile Glu Ser His Phe Ser Leu Cys Asp Arg Leu Leu Asn  
 4120 180 185 190

## RAW SEQUENCE LISTING

DATE: 04/25/2002

PATENT APPLICATION: US/10/041,007

TIME: 14:44:55

Input Set : A:\P02081US1.txt

Output Set: N:\CRF3\04252002\J041007.raw

```

4123 Thr Thr Asn Ser Val Ile Ala Leu Ser Val Trp Lys Thr Gly His Ser
4124      195      200      205
4127 Gln Val Gln Gln Gly Ala Glu Phe Ile Ala Glu Asn Leu Arg Leu Leu
4128      210      215      220
4131 Asn Glu Glu Asp Glu Leu Ser Pro Asp Phe Gln Ile Ile Phe Pro Ala
4132 225      230      235      240
4135 Leu Leu Gln Lys Ala Lys Ala Leu Gly Ile Asn Leu Pro Tyr Asp Leu
4136      245      250      255
4139 Pro Phe Ile Lys Tyr Leu Ser Thr Thr Arg Glu Ala Arg Leu Thr Asp
4140      260      265      270
4143 Val Ser Ala Ala Ala Asp Asn Ile Pro Ala Asn Met Leu Asn Ala Leu
4144      275      280      285
4147 Glu Gly Leu Glu Glu Val Ile Asp Trp Asn Lys Ile Met Arg Phe Gln
4148      290      295      300
4151 Ser Lys Asp Gly Ser Phe Leu Ser Ser Pro Ala Ser Thr Ala Cys Val
4152 305      310      315      320
4155 Leu Met Asn Thr Gly Asp Glu Lys Cys Phe Thr Phe Leu Asn Asn Leu
4156      325      330      335
4159 Leu Asp Lys Phe Gly Gly Cys Val Pro Cys Met Tyr Ser Ile Asp Leu
4160      340      345      350
4163 Leu Glu Arg Leu Ser Leu Val Asp Asn Ile Glu His Leu Gly Ile Gly
4164      355      360      365
4167 Arg His Phe Lys Gln Glu Ile Lys Gly Ala Leu Asp Tyr Val Tyr Arg
4168      370      375      380
4171 His Trp Ser Glu Arg Gly Ile Gly Trp Gly Arg Asp Ser Leu Val Pro
4172 385      390      395      400
4175 Asp Leu Asn Thr Thr Ala Leu Gly Leu Arg Thr Leu Arg Met His Gly
4176      405      410      415
4179 Tyr Asn Val Ser Ser Asp Val Leu Asn Asn Phe Lys Asp Glu Asn Gly
4180      420      425      430
4183 Arg Phe Phe Ser Ser Ala Gly Gln Thr His Val Glu Leu Arg Ser Val
4184      435      440      445
4187 Val Asn Leu Phe Arg Ala Ser Asp Leu Ala Phe Pro Asp Glu Arg Ala
4188      450      455      460
4191 Met Asp Asp Ala Arg Lys Phe Ala Glu Pro Tyr Leu Arg Glu Ala Leu
4192 465      470      475      480
4195 Ala Thr Lys Ile Ser Thr Asn Thr Lys Leu Phe Lys Glu Ile Glu Tyr
4196      485      490      495
4199 Val Val Glu Tyr Pro Trp His Met Ser Ile Pro Arg Leu Glu Ala Arg
4200      500      505      510
4203 Ser Tyr Ile Asp Ser Tyr Asp Asp Asn Tyr Val Trp Gln Arg Lys Thr
4204      515      520      525
4207 Leu Tyr Arg Met Pro Ser Leu Ser Asn Ser Lys Cys Leu Glu Leu Ala
4208      530      535      540
4211 Lys Leu Asp Phe Asn Ile Val Gln Ser Leu His Gln Glu Glu Leu Lys
4212 545      550      555      560
4215 Leu Leu Thr Arg Trp Lys Glu Ser Gly Met Ala Asp Ile Asn Phe
4216      565      570      575
4219 Thr Arg His Arg Val Ala Glu Val Tyr Phe Ser Ser Ala Thr Phe Glu

```

## RAW SEQUENCE LISTING

DATE: 04/25/2002

PATENT APPLICATION: US/10/041,007

TIME: 14:44:55

Input Set : A:\P02081US1.txt

Output Set: N:\CRF3\04252002\J041007.raw

```

4220          580          585          590
4223 Pro Glu Tyr Ser Ala Thr Arg Ile Ala Phe Thr Lys Ile Gly Cys Leu
4224          595          600          605
4227 Gln Val Leu Phe Asp Asp Met Ala Asp Ile Phe Ala Thr Leu Asp Glu
4228          610          615          620
4231 Leu Lys Ser Phe Thr Glu Gly Val Lys Arg Trp Asp Thr Ser Leu Leu
4232 625          630          635          640
4235 His Glu Ile Pro Glu Cys Met Gln Thr Cys Phe Lys Val Trp Phe Lys
4236          645          650          655
4239 Leu Met Glu Glu Val Asn Asn Asp Val Val Lys Val Gln Gly Arg Asp
4240          660          665          670
4243 Met Leu Ala His Ile Arg Lys Pro Trp Glu Leu Tyr Phe Asn Cys Tyr
4244          675          680          685
4247 Val Gln Glu Arg Glu Trp Leu Glu Ala Gly Tyr Ile Pro Thr Phe Glu
4248          690          695          700
4251 Glu Tyr Leu Lys Thr Tyr Ala Ile Ser Val Gly Leu Gly Pro Cys Thr
4252 705          710          715          720
4255 Leu Gln Pro Ile Leu Leu Met Gly Glu Leu Val Lys Asp Asp Val Val
4256          725          730          735
4259 Glu Lys Val His Tyr Pro Ser Asn Met Phe Glu Leu Val Ser Leu Ser
4260          740          745          750
4263 Trp Arg Leu Thr Asn Asp Thr Lys Thr Tyr Gln Ala Glu Lys Ala Arg
4264          755          760          765
4267 Gly Gln Gln Ala Ser Gly Ile Ala Cys Tyr Met Lys Asp Asn Pro Gly
4268          770          775          780
4271 Ala Thr Glu Glu Asp Ala Ile Lys His Ile Cys Arg Val Val Asp Arg
4272 785          790          795          800
4275 Ala Leu Lys Glu Ala Ser Phe Glu Tyr Phe Lys Pro Ser Asn Asp Ile
4276          805          810          815
4279 Pro Met Gly Cys Lys Ser Phe Ile Phe Asn Leu Arg Leu Cys Val Gln
4280          820          825          830
4283 Ile Phe Tyr Lys Phe Ile Asp Gly Tyr Gly Ile Ala Asn Glu Glu Ile
4284          835          840          845
4287 Lys Asp Tyr Ile Arg Lys Val Tyr Ile Asp Pro Ile Gln Val
4288          850          855          860
E--> 4291 25152839 - 3 -

```

*delete*

VERIFICATION SUMMARY

PATENT APPLICATION: US/10/041,007

DATE: 04/25/2002

TIME: 14:44:56

Input Set : A:\P02081US1.txt

Output Set: N:\CRF3\04252002\J041007.raw

L:2829 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:29 after pos.:0  
L:2847 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:30 after pos.:0  
L:4291 M:332 E: (32) Invalid/Missing Amino Acid Numbering, SEQ ID:41